

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

PUBLICATION NUMBER : 11132204  
PUBLICATION DATE : 18-05-99

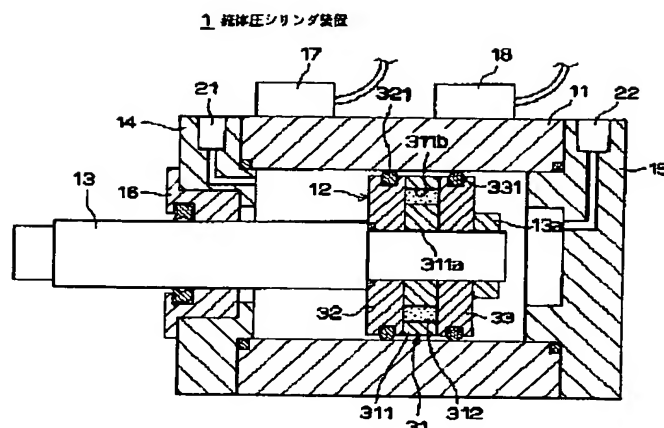
APPLICATION DATE : 31-10-97  
APPLICATION NUMBER : 09300120

APPLICANT : TAIYO LTD;

INVENTOR : TOKAI MASAOKI;

INT.CL. : F15B 15/28 F15B 15/14

TITLE : CYLINDER DEVICE



ABSTRACT : PROBLEM TO BE SOLVED: To provide strong magnetic force, and cope with bores of cylinder tubes even variously different in bore size by permanent magnets of the same shape.

SOLUTION: The cylinder device 1 is constituted so that a piston 12 slides in the inner circumferential face of a cylinder tube, and the piston 12 is composed of at least three members of an intermediate piston member 31, a first piston member 32 and a second piston member 33 that are arranged on both sides of the intermediate piston member 31, then the intermediate piston member 31 has a holding member 311 which is made of a nonmagnetic material and in which plural holes 311b are formed in the axial direction, and plural permanent magnets 312 which are fitted into the respective holes 311b so that the poles are arranged along the axial direction and the same poles are positioned on the same sides.

COPYRIGHT: (C)1999,JPO